

Preliminary Amendment
Application No. 10/594,977
Attorney Docket No. 063136

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions of claims in the application.

Listing of Claims

Claim 1 (original): A method for producing a fluorine-containing (meth)acrylate polymer comprising:

reacting a (meth)acrylate polymer with an alcohol containing a fluorine atom represented by General Formula 1:



wherein R_f is a fluoroalkyl group or a fluoroalkyl ether group of 1 to 15 carbon atoms containing at least one or more fluorine atoms and n is an integer of 0 to 10.

Claim 2 (original): The method for producing a fluorine-containing (meth)acrylate polymer according to Claim 1, wherein the reaction is conducted in the presence of a transesterification catalyst.

Claim 3 (original): The method for producing a fluorine-containing (meth)acrylate polymer according to Claim 2, employing a transesterification catalyst consisting of at least one selected from alkaline metal carbonates, alkaline earth metal carbonates, alkaline metal bicarbonates and alkaline metal hydroxides as a transesterification catalyst.

Claim 4 (original): The method for producing a fluorine-containing (meth)acrylate polymer according to Claim 2, employing a transesterification catalyst consisting of at least one selected from Lewis acids and protic acids as a transesterification catalyst.

Claim 5 (original): The method for producing a fluorine-containing (meth)acrylate polymer according to Claim 4, employing a transesterification catalyst consisting of at least one selected from vanadium-based compounds, titanium-based compounds, zirconium-based compounds and hafnium-based compounds as a Lewis acid.

Claim 6 (original): The method for producing a fluorine-containing (meth)acrylate polymer according to Claim 5, employing a transesterification catalyst consisting of at least one selected from vanadium chloride-based compounds, titanium chloride-based compounds, zirconium chloride-based compounds and hafnium chloride-based compounds as a Lewis acid.

Claim 7 (original): The method for producing a fluorine-containing (meth)acrylate polymer according to Claim 6, employing titanium tetrachloride as a Lewis acid.

Claim 8 (original): The method for producing a fluorine-containing (meth)acrylate polymer according to Claim 5, employing a transesterification catalyst consisting of at least one

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selected from acetylacetonato complexes of vanadium-based compounds, titanium-based compounds, zirconium-based compounds and hafnium-based compounds as a transesterification catalyst.

Claim 9 (original): The method for producing a fluorine-containing (meth)acrylate polymer according to Claim 5, employing a transesterification catalyst consisting of at least one selected from tetrahydroxyfuran complexes of vanadium chloride-based compounds, titanium chloride-based compounds, zirconium chloride-based compounds and hafnium chloride-based compounds as a transesterification catalyst.

Claim 10 (original): The method for producing a fluorine-containing (meth)acrylate polymer according to Claim 5, employing a transesterification catalyst consisting of at least one selected from alkoxides of vanadium-based compounds, titanium-based compounds, zirconium-based compounds and hafnium-based compounds as a transesterification catalyst.

Claim 11 (original): The method for producing a fluorine-containing (meth)acrylate polymer according to Claim 5, employing a transesterification catalyst consisting of at least one selected from fluorine-containing alkoxides of vanadium-based compounds, titanium-based compounds, zirconium-based compounds and hafnium-based compounds as a transesterification catalyst.

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Claim 12 (original): The method for producing a fluorine-containing (meth)acrylate polymer according to any of Claims 1 to 11, employing an organic solvent containing a fluorine atom as a non-reactive solvent.

Claim 13 (original): A fluorine-containing (meth)acrylate polymer obtained via a transesterification by reacting a (meth)acrylate polymer with an alcohol containing a fluorine atom represented by General Formula 1:



wherein R_f is a fluoroalkyl group or a fluoroalkyl ether group of 1 to 15 carbon atoms containing at least one or more fluorine atoms and n is an integer of 0 to 10.

Claim 14 (currently amended): The ~~method for producing a~~ fluorine-containing (meth)acrylate polymer according to Claim 13, wherein the fluorine content is 1 to 50% by weight and the glass transition temperature is 40°C to 120°C.